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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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EXAMINER	
HARVEY, D	
ART UNIT	PAPER NUMBER

2643
DATE MAILED:

09/26/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/478,136

Applicant(s)

House

Examiner

Dionne Harvey

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☐ Responsive to communication(s) filed on _____.

2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) 1-18 is/are pending in the application.

4a) Of the above, claim(s) 13-18 is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) 1-12 is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

a) ☐ All b) ☐ Some* c) ☐ None of:

1. ☐ Certified copies of the priority documents have been received.

2. ☐ Certified copies of the priority documents have been received in Application No. _____.

3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

15) ☐ Notice of References Cited (PTO-892)

18) ☐ Interview Summary (PTO-413) Paper No(s). _____

16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

19) ☐ Notice of Informal Patent Application (PTO-152)

17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____

20) ☐ Other: _____

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DETAILED ACTION

Claim Rejections - 35 U.S.C. § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1 and 7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The Applicant states "...applying the carrier signal and the modulated signal...". The believes that the Applicant is attempting to claim applying the carrier signal and the modulated *sound* signal. Clarification is required.

Claim Rejections - 35 U.S.C. § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over the Applicant's Admitted Prior Art (APA) in view of Puharich (US 3,586,791) OR Loeb (US 5,571,148).

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Regarding claims 1 and 4, as shown in figure 2, the APA teaches a method for stimulating the human cochlea in response to a sound comprising; generating an electrical sound signal in response to sound(62); generating an analog carrier signal; modulating(60) the carrier signal to generate a modulated signal; and applying the carrier signal and modulated signal to an electrode(see figure 1) that is coupled with the cochlea such that the signal is applied to the cochlea. The APA fails to specifically teach that the carrier signal has a frequency greater than 20kHz.

Shown in Figure 1; column 2, lines 18-32, Puharich teaches a method for stimulating the "facial nerve system" comprising; generating an electrical sound signal in response to sound (17); generating a carrier signal; modulating the carrier signal to generate a modulated signal(15); and applying the modulated signal to an electrode that is coupled to any facial nerve system of the user. Puharich further teaches that the carrier signal operates at a frequency of 6-60kHz, dependent upon the type of electrodes employed. Although Puharich fails to specifically teach a "cochlea" electrode, he teaches carrier signal transmission via the "facial nerve system" which consists of "...nerves located **in the head and neck regions of the subject.**"(column 3, lines 30-51). Additionally, Loeb teaches an implantable cochlea stimulator with a carrier frequency between 100-5000 KHZ (see column 11, lines 9-15). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of the APA and Puharich or Loeb, thereby providing a carrier signal having a frequency greater than 20Khz, so as establish the desired resonant coupling by matching the carrier frequency to the capacitance of the

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intended tissue at which the coupling electrodes are to be placed(SEE Puharich; column 2, lines 19-32) or because a higher frequency can be produced using a smaller sized crystal within the oscillator circuit (SEE Loeb; column 12, lines 0-15).

Similarly, Regarding claims 7 and 10, the APA teaches a driver and cochlear implant system for a patients cochlea comprising; a microphone(62); at least one electrode(34) for coupling to the patients cochlea(30); an internal coil(40) for implanting in the patient; a microphone(62); a modulator(60); an external coil(56) for coupling the carrier signal and modulated sound signal to the internal coil; and an oscillator(57). The APA fails to teach that the carrier signal has a frequency greater than 20kHz.

Shown in Figure 1; column 2, lines 18-32, Puharich teaches a method for stimulating the “facial nerve system” comprising; generating an electrical sound signal in response to sound (17); generating a carrier signal; modulating the carrier signal to generate a modulated signal(15); and applying the modulated signal to an electrode that is coupled to any facial nerve system of the user. Puharich further teaches that the carrier signal operates at a frequency of 6-60kHz, dependent upon the type of electrodes employed. Although Puharich fails to specifically teach a “cochlea” electrode, he teaches carrier signal transmission via the “facial nerve system” which consists of “...nerves located in the head and neck regions of the subject.”(column 3, lines 30-51).

Additionally, Loeb teaches an implantable cochlea stimulator with a carrier frequency between 100-5000 KHZ (see column 11, lines 9-15). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of the APA and

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Puharich or Loeb, thereby providing a carrier signal having a frequency greater than 20Khz, so as establish the desired resonant coupling by matching the carrier frequency to the capacitance of the intended tissue at which the coupling electrodes are to be placed(SEE Puharich; column 2, lines 19-32) or because a higher frequency can be produced using a smaller sized crystal within the oscillator circuit (SEE Loeb; column 12, lines 0-15).

Regarding claims 2,5,8 and 11, as disclosed on page 2, lines 5-6, both the APA and Loeb teach modulating by amplitude modulation (see column 4, lines 40-45 & column 11, lines 13-16, respectively).

Regarding claims 3,6,9 and 12, Loeb teaches modulating by frequency modulation (see column 11, lines 13-16).

Response to Arguments

2. Regarding the Applicant's argument that Neither the APA, Nor Puharich Teach Stimulation of the Cochlea: Please see the specification of the immediate invention, page 1, line 21, wherein the Applicant states that figure 1a (PRIOR ART), "...excites the cochlea...". This argument is not persuasive.

3. Regarding the Applicant's argument that Puharich Teaches Away from the Claimed Invention since He States That "In case of total deafness...cochlea have been totally destroyed...hearing may be achieved by practice of the invention." :Puharich does not restrict the practice of the invention to ONLY cases where the cochlea is destroyed. In making this

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statement, Puharich is teaching that the invention is **not limited to** cochlear stimulation only. In further support of this, as stated in the rejection above, Puharich adds that the carrier signal is transmitted to "...nerves located in the head and neck regions of the subject" and the frequency of the carrier signal is **dependent upon the capacitance of the intended tissue** at which the coupling electrodes are to be placed (SEE Puharich; column 2, lines 19-32). The rejection is maintained.

4. Regarding the Applicant's argument that the Supersonic Carrier of Loeb Fails to Reach The Cochlea: as disclosed in the Loeb reference, the carrier signal of Loeb reaches the electrode via microstimulators. The Applicant's argument is not persuasive since the electrode is clearly the final means for transmitting the signal to the user. The rejection is maintained.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, THIS ACTION IS MADE FINAL. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

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will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dionne Harvey whose telephone number is (703) 305-1111. The examiner can normally be reached on Monday through Friday from 8:30am to 6:00pm.

Any responses to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, DC 20231

or faxed to:

(703) 308-6306, for formal communications for entry

Or:

(703) 308-6296, for informal or draft communications, please label "PROPOSED" or "DRAFT".

Hand delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA., Sixth Floor(Receptionist)

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curtis Kuntz, can be reached at (703) 305-4708.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dionne Harvey whose telephone number is (703) 305-1111.

D.H.

September 21, 2001


CURTIS KUNTZ
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600